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To: Erica Fifer

From: Molly Smith

Subject: Mima Creek WRP Design Summary Report

Summary:

The Mima Creek WRP site is located in southwest Thurston County (T16N, R3W, Section 20). The property is owned and managed by The Nature Conservancy (TNC). The total site is 43.5 acres. Historically the site was used as pasture and as a private airstrip. A stream used to run through the eastern field, but it was channelized and moved to the property line (ArcGIS site map below actually shows its historical location). Originally the hope was to move the channel back to its natural channel. This option was not possible because the adjacent landowner has water rights to the water in its ditched location. This area was instead planted. There is also a drainage ditch that runs through the center of the property, receiving water from a culvert under Gates Road.

The other portion of the WRP proposal was to create seasonal amphibian habitat. The southern portion of the property closest to the Black River is at a lower elevation and is wet year round, due to a high water table. A small drainage ditch run through the center of the property into this site from the uplands to the north of Gates Road, and provides supplemental water to the site. A railroad grade borrow ditch runs NE to SW along the southern property line and has water in it year round. The railroad grade itself runs parallel to the ditch. The railroad grade is no longer used for train transportation, but is likely to be included in the "rails to trails" program.

When the site was visited in early October there was 6" of standing water, in the 106 foot elevation range. Currently this wet area is overtaken with reed canary grass. With the creation of shallow open bodies of water, this area will likely attract the Oregon Spotted Frog. This habitat would be desirable to a variety of different species.

Design Considerations:

- Contracted under Wetland Restoration (PS 657).
- Designed to Pond (PS378) - excavated pond.
- Keep an open water environment into the late summer. 36" of water will be the target depth for the wettest times of year.
- Provide shallower breeding habitat (10" target depth) around the perimeter of the shallow excavations.
- Side slopes 1:5 or greater down to 12" deep bench and 1:2 or greater slope to bottom elevation.
- If the depressions overtop the water will sheet flow to the surrounding canary grass areas. No emergency spill way is necessary.

- Shape and final location of depressions will be staked in the field and shall blend visually with the existing landscape.
- Exposed construction areas shall be re-seeded or planted according to NRCS planner and biologist recommendations.

Site Conditions:

- Area to be excavated is at the 106 foot to 107 foot elevation, and will require excavation to an elevation of 103 to 104 feet. Lidar survey data was utilized for elevations. A bench mark was set on the property using the survey grade GPS unit.
- Soils in the area are Godfrey silt clay loam which is not limited for pond reservoir areas and is poorly drained - very well suited for the shallow excavations that are proposed.
- TNC plans to dispose of the excavated material on site on the northern part of the property to keep it out of the wetland areas. Depth of spoils shall not exceed 3 feet in depth.
- Cultural Resources have already been completed.
- Permits will be obtained once the design is given to TNC. WDFW has already been to the site.

Approximate Quantities:

- Pond 1:
 - $\text{Area}_{\text{top}} = 3.4$ acres
 - $\text{Area}_{\text{bottom}} = 2.75$ acres
 - Excavation (Cut) Pond 1 = 2026 cubic yards
 - Below Ground Water Storage Volume = $54,702 \text{ ft}^3 = 409,199$ gallons = 1.26 acre foot
- Pond 2:
 - $\text{Area}_{\text{top}} = 1.98$ acres
 - $\text{Area}_{\text{bottom}} = 1.53$ acres
 - Excavation (Cut) Pond 2 = 1458 cubic yards
 - Below Ground Water Storage Volume = $39,366 \text{ ft}^3 = 294,478$ gallons = 0.90 acre foot

Construction will take place late summer of 2010. TNC will facilitate the construction activities and NRCS will provide construction inspection. If you have any questions please let me know. Thanks.
~Molly

Mima Creek WRP Site Map (T16N, R3W, Section 20)

